

REMARKS/ARGUMENTS

Claims 1-24 were originally filed with the Application along with a concurrently filed Preliminary Amendment canceling claims 1-24 and adding new claims 25-42. Thus, 18 claims (claims 25-42) are currently pending. The body of the Office Action references claims 25-42. Thus, the Applicants assume that the present Office Action intended to indicate that claims 25-42, rather than claims 1-24, are currently pending. Therefore, the responses herein are directed to claims 25-42. In response to the present office action, no claims are amended or canceled. No new claims are added. Therefore, no new matter has been included herewith. Due to a clerical error, Applicants' attorney incorrectly stated that the parent application claims priority to U.S. Provisional Application No. 60/088,904 filed June 11, 1998. This response is intended as a full and complete response to the Office Action dated October 19, 2005.

Rejection of Claims 25, 30-33, and 39-40 under 35 U.S.C. §103

Claims 25, 30-33, and 39-40 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,872,201 to Cheung et al (hereafter referred to as "the '201 patent"), in view of U.S. Patent No. 5,869,575 to Kolthammer et al (hereafter referred to as "the '575 patent") in further view of U.S. Patent No. 5,677,029. In making the rejection the Examiner made the following statements:

Claims 25, 30-33 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al (U.S. Patent No. 5,677, 029).

With regard to Claims 25 and 32, Cheung et al disclose a substantially random interpolymer consisting of ethylene, which is an alpha-olefin monomer, styrene, which is a vinylidene aromatic monomer and propylene which is an ethylenically unsaturated monomer, the interpolymer is used in the making of fibers, lattices, and multilayer structures (column 6, lines 32-34); Cheung et al therefore discloses a multilayer structure, each comprising a lattice of fibers, therefore a fabric, of the interpolymer; the multilayer structure is also a structure comprising a fabric and a polymeric layer consisting of ethylene, which is an olefin monomer, styrene, which a vinylidene aromatic monomer and propylene monomer; the lattice of fibers is a fabric, and is therefore a woven or non-woven fabric made of man-made fibers; with regard to the claimed aspect of the interpolymer having no tackifier, no tackifier is taught by Cheung et al; Cheung et al therefore discloses an interpolymer having no tackifier; with regard to the claimed aspect of the ethylenically unsaturated monomer being optional, Cheung et al teaches the equivalence of interpolymers consisting of ethylene and styrene and interpolymers consisting of ethylene, styrene and propylene and therefore discloses an ethylenically unsaturated monomer that is optional. Cheung et al fails to disclose fibers which comprise cotton and a structure having a drape angle of greater than 35 degrees.

Kolthammer et al teach that a fiber comprising an ethylene interpolymer is equivalent to a polymer comprising an ethylene interpolymer and cotton (column 2, lines 35 – 44; column 17, lines 61-67; column 18, lines 1-8) for the purpose of obtaining a fiber which has high thermal stability (column 2, lines 35-44). One of ordinary skill in the art would therefore have recognized the advantage of providing for the cotton of Kolthammer et al in Cheung et al, which comprises an ethylene interpolymer, depending on the desired thermal stability of the end product.

Prevorsek et al teach a multilayer structure having a drape angle of greater than 35 degrees (column 24, lines 5-56) for the purpose of obtaining a structure which is highly flexible (column 24, lines 57-59). One of ordinary skill in the art would therefore have recognized the advantage of providing for the drape angle of Prevorsek et al in Cheung et al, which comprises a multilayer structure, depending on the desired flexibility of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a blend comprising ethylene interpolymer and cotton in Cheung et al, in order to obtain a fiber which has high thermal stability as taught by Kolthammer et al and to have provided for a drape angle of greater than 35 degrees in Cheung et al in order to obtain a structure which is highly flexible as taught by Prevorsek et al, therefore a polymer having a melt index of 0.1 to 10g /10 minutes.

With regard to Claim 30, Cheung et al discloses 19.5 to 98.5 mole percent ethylene, which is an olefin monomer, 1-50 mole percent aromatic vinylidene monomer and another ethylenically unsaturated (column 3, lines 26-37).

With regard to Claim 31, the interpolymer contains, interpolymerized, from 55 to 95 mole percent ethylene, which is an olefin monomer, 5 to 45 mole percent styrene, which is a vinylidene aromatic monomer and another ethylenically unsaturated monomer (column 3, lines 26-37).

With regard to Claim 33, as stated previously the interpolymer consists of ethylene, styrene and propylene, which is an olefin containing three carbon atoms.

With regard to Claims 39-40, the polymeric layer is fixed to a second layer by calendaring (column 6, lines 33-37)."

Office Action October 19, 2005, Pages 2-4.

The Applicants have reviewed the rejection in view of the Examiner's comments and respectfully disagree. The Applicants reasons are stated as follows.

The present claims recite a multilayer structure having a drape angle greater than 35 degrees and comprising two layers, layer (A) and layer (B). In the multilayer structure, layer (A) is selected from a woven or non-woven fabric made of natural or man-made textile fibers made of wool, cotton, silk, linen, regenerated cellulose, cellulose acetate, a polyamide, an acrylonitrile homo- or copolymer, a polyethylene glycol terephthalate, a polyester, or mixtures thereof. Layer (B) is polymeric layer comprising a substantially random interpolymer comprising in polymerized form i) one or more α -olefin monomers and ii) one or more vinyl or vinylidene aromatic monomers and/or one

or more sterically hindered aliphatic or cycloaliphatic vinyl or vinylidene monomers. Layer (B) is also free from tackifier or comprises less than 5 percent tackifier, based on the total weight of tackifier and substantially random interpolpolymer. The claimed multilayer structures are useful for garments, particularly weatherproof garments. One feature that is highly desirable for any fabric used in garment making is it's characteristic drape. The claimed multilayer structures provide the improved drape character thus providing a weatherproof material that has desirable drape characteristics.

THE '201 PATENT FAILS TO ESTABLISH A *PRIMA FACIE* CASE OF OBVIOUSNESS AGAINST CLAIMS 25-42 BECAUSE IT DOES NOT DISCLOSE THE SPECIFIC COMPONENTS OF LAYER (A) OR THE COMPOSITION USED IN LAYER (B) OF THE CLAIMED MULTILAYER STRUCTURES

The '201 patent fails to establish a *prima facie* case of obviousness because it fails to teach or suggest each and every limitation of the claims. With respect to multilayered structures, the '201 patent makes only a generic disclosure that the interpolymers described therein "can be utilized to produce a wide range of fabricated articles such as, for example but not limited to, films sheets or as components of a multilayered structure resulting from calendaring, blowing casting, or (co-)extrusion operations." *Col 2, ll. 33-37*. There appears to be no disclosure in the reference of what specific materials might be combined with the compositions disclosed therein to make such multilayer structures. Such a generic disclosure is insufficient to establish a *prima facie* case of obviousness. *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994) ("The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious.").

In addition to failing to teach or suggest the compositional features of Layer (A) of the multilayer structures, the '201 patent fails to disclose structures using the composition of Layer (B) at all, let alone it's use in a multilayer structure. Layer (B) comprises the recited substantially random interpolpolymer that has less than 5 percent of a tackifier. There is no discussion whatsoever of tackifiers in the '201 patent. The absence of such a disclosure cannot reasonably be construed as a teaching that these requirements are included in the '201 patent. *In re Evanega*, 4 USPQ2d 1249 (Fed. Cir. 1987) (stating that the mere absence from a reference of an explicit requirement cannot

reasonably be construed as an affirmative statement that the requirement is in the reference.). Thus, the '201 patent also fails to teach or suggest the composition used in Layer (B) of the claimed multilayer structures.

THE '201 PATENT FAILS TO ESTABLISH A *PRIMA FACIE* CASE OF OBVIOUSNESS AGAINST CLAIMS 25-42 BECAUSE IT DOES NOT DISCLOSE MULTILAYER STRUCTURES HAVING THE CLAIMED DRAPE ANGLE.

In addition to failing to teach or suggest the compositional features of both Layer (A) and Layer (B) of the multilayer structures, the '201 patent fails to teach multilayer structures that have the recited drape angle. Moreover, there is no suggestion that the compositions described therein would provide structures with desirable properties such as improved drape. Such a generic disclosure is inadequate to establish a *prima facie* case of obviousness with respect to the present claims because it fails to teach or suggest each and every limitation recited in the claims.

For these reasons, the '201 patent fails to establish a *prima facie* case of obviousness against the rejected claims and claims dependent thereon. However, these references alone or in combination with the '201 patent.

THE '575 PATENT IN COMBINATION WITH THE '201 PATENT FAILS TO ESTABLISH A *PRIMA FACIE* CASE OF OBVIOUSNESS AGAINST THE CLAIMS BECAUSE THE COMBINATION FAILS TO TEACH OR SUGGEST EACH AND EVERY CLAIM LIMITATION

To cure these deficiencies the Examiner has cited the '575 patent and the '029 patent. Specifically, the '575 patent was cited as teaching that a fiber comprising an ethylene interpolymer is equivalent to a fiber comprising an ethylene interpolymer and cotton to produce a fiber having improved thermal stability. Thus, the Examiner asserts that it would be obvious to make a multilayer structure wherein one layer is cotton and another layer is a substantially random interpolymer as described in the '201 patent. Such an assertion uses an improper standard of determining obviousness.

The cited portion of the '575 patent discloses fibers and fabrics that are blends of ethylene interpolymers with cotton or PET not multilayer structures:

“Useful articles which can be made from such interpolymer compositions include ... gel spun fibers (e.g., the system disclosed in U.S. Pat. No. 4,413,110, incorporated herein by reference)), both woven and nonwoven fabrics (e.g., spunlaced fabrics disclosed in U.S. Pat. No. 3,485,706, incorporated herein by reference) or structures made from such fibers (including, e.g., blends of these fibers with other fibers, e.g., PET or cotton)), and molded articles (e.g., blow molded articles, injection molded articles and rotomolded articles).”

‘575 Patent, column 17, line 61- column 18, line 8.

A teaching that a fiber or fabric may be made by blending a particular polymer with cotton or PET is not a teaching or suggestion to make a multilayer structure including separate layers of such components. Moreover, the polymers of the ‘575 patent do not appear to be substantially random interpolymers. The ‘575 patent is also silent with respect to the presence of a tackifier and the drape angle and there is no reason to believe that the improved thermal stability of the blend of the ‘575 would be related to desirable drape properties in a multilayered structure. Thus, the ‘575 patent fails to provide the teachings or suggestions the the ‘201 patent lacks with respect to Layer (A), Layer (B), the low tackifier content and the drape angle.

THERE IS NO MOTIVATION TO COMBINE THE ‘575 PATENT WITH THE ‘201 PATENT BECAUSE THERE THE ‘575 PATENT SUGGESTS BLENDS WHILE THE ‘201 PATENT SUGGESTS MULTILATER STRUCTURES

As discussed above, the ‘575 patent may suggest that fibers and fabrics where in the polymer component is blended with cotton or PET may have improved thermal stability. In a blend, the properties are determined by the interaction between the components. Thus, a suggestion that a blend may have useful properties would not motivate one skilled in the art to make a mutlilayer structure having distinct layers of the blend components. Moreover, improved thermal stability of a blend would not readily appear to suggest that a multilayer structure having distinct layers of the blend components would have the improved drape properties that are desirable to consumers. Thus, there is no motivation to combine the ‘575 patent with the ‘201 patent.

THE ‘029 PATENT IN COMBINATION WITH THE ‘575 PATENT AND THE ‘201 PATENT FAILS TO ESTABLISH A *PRIMA FACIE* CASE OF OBVIOUSNESS AGAINST THE CLAIMS BECAUSE THE COMBINATION FAILS TO TEACH OR SUGGEST EACH AND EVERY CLAIM LIMITATION

The '029 patent was cited as disclosing fabric that have the recited drape angle. **But the '029 patent is related to particular patterns by which sections of fabric are held together by securing means such as bolts, rivets, adhesives, staples, and stitches to ballistic resistant garments. Column 3, lines 60-64.** With respect to particular polymers, the '029 patent generically discloses that the polymer may be any thermoplastic, thermosetting resin, or a combination of the two. More specifically, the polymer of the fibrous layer. The description does not teach or suggest the polymers of Layer (B) of the present claims. Like the '201 and '575 patents, the '029 patent is also silent about the absence of a tackifier. Thus, the combination of references fails to teach each and every limitation of the claims.

THERE IS NO MOTIVATION TO COMBINE THE '029 PATENT WITH THE '575 PATENT OR THE '201 PATENT BECAUSE THERE IS NO REASONABLE EXPECTATION OF SUCCESS THAT THE PROPERTIES OF THE FABRICS OF THE '029 PATENT WOULD REMAIN IN THE CLAIMED STRUCTURES

As mentioned above, the '029 patent teaches that the drape properties of the fabrics disclosed therein are related to manner in which the individual segments of piece of fabric are connected. There is no teaching or suggestion that the segments themselves have the recited drape angle. In contrast, the drape angle of the multilayer claimed multilayer structures is determined from a 200 mm x 200 mm portion of the multilayer structure. Specification, page 28, lines 5-13. There is no suggestion that the individual segments that form the garment of the '029 patent would have such drape properties because the '019 patent expressly teaches that the drape and flexibility of the fabrics is determined by the manner in which the individual segments are connected. Because there is no such suggestion, the combination of references would not provide one skilled in the art with a reasonable expectation of success. Therefore, the combination fails to establish a *prima facie* case of obviousness against the present claims.

THE COMBINATION OF THE '029 PATENT, THE '575 PATENT, THE '201 PATENT IS IMPROPER BECAUSE IT IS BASED ON HINDSIGHT

The Examiner's determination of obviousness appears to be based on a combination of features selectively culled from the prior art to fit the parameters of the claimed invention. As discussed above, the base reference lacks teachings with respect to nearly every claim limitation.

The secondary references have been identified for their asserted teachings of each individual element that is missing from the base reference, while ignoring the remaining disclosure of the references. For instance, the disclosure of cotton and PET as useful for blending with polyethylene fibers of a different type is cited as suggesting that cotton or PET be used in the recited multilayer structure. While the '029 patent is cited for the disclosure of the drape angle despite the failure of the reference to describe the particularly claimed substantially random polymers as being suitable therein. Such a piecing together of individual teachings that are selectively culled from the prior art is an improper use of hindsight. *ATD Corp. v. Lydall, Inc.*, 48 USPQ2d 1321 (Fed. Cir. 1998); *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971); *Sensonics, Inc. v. Aerosonic, Corp.*, 38 USPQ2d 1551 (Fed. Cir. 1996). Not only is hind sight indicated by the culling of the teachings from the references, but it is also evidenced by the lack of specific statements in the references or in the general knowledge in the art to connect the teachings of these references in a way to arrive at the claimed invention. *In re Kotzab*, 54 USPQ2d 1308 (Fed. Cir. 2000) (Specific statements that in the abstract may appear to suggest a limitation are insufficient where there is no specific understanding within the knowledge of one skilled in the art that would motivate one with no knowledge of the applicants' disclosure to make the claimed invention.) In other words, there is no motivation to combine these references to arrive at the claimed invention, a requirement for a *prima facie* case of obviousness. Therefore, the Applicants respectfully request that the rejection of claims 25, 30-33, and 39-40 under 35 U.S.C. §103 based on the combination of the '201 patent, the '575 patent, and the '029 patent be withdrawn.

Rejection of Claims 26, 28-29, 34-38, and 41-42 under 35 U.S.C. §103

Dependent claims 26, 28-29, 34-38, and 41-42 are rejected as being unpatentable over U.S. Patent No. 5,872,201 to Cheung, et al (the '201 patent), in view of U.S. Patent No. 5,869,575 to Kolthammer et al (the '575 patent) and U.S. Patent No. 5,677,029 to Prevorsek et al (the '029 patent) in further view of U.S. Patent No. 6,190,768 to Turley et al (hereafter referred to as the "768 patent.") In making the rejection, the Examiner made the following statements:

Claims 26, 28-29, 34-38 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al (U.S. Patent No. 5,872,201) in view of Kolthammer et al (U.S. Patent No.

5,869,575) and Prevorsek et al (U.S. Patent No. 5,677,029) and further in view of Turley et al (U.S. Patent No. 6,190,768).

Cheung et al, Kolthammer et al and Prevorsek et al disclose a multilayer structure comprising fabric comprising an interpolmer as discussed above. With regard to Claims 26, 28-29, 34-38 and 41-42, Cheung et al, Kolthammer et al and Prevorsek et al fail disclose to [sic]an adhesive layer located between the fabric layers, and no adhesive layer located between the fabric layers, and up to 40 percent of a further polymeric component, where the polymeric component is styrenic block copolymer and low density polyethylene and propylene homopolymer, and water impermeable clothes made from the fabric.

Turley et al teach, in the making of fiber or fabric from an ethylene interpolmer the use of an adhesive or the use of no adhesive between the fabric layers (column 6, lines 46-56), and 40 percent by weight of a further polymeric component comprising styrenic block copolymer, low density polyethylene, which is an ethylene – olefin copolymer or propylene homopolymer (column 23, lines 16-35) for the purpose of making diapers, which are water impermeable clothing, from the fabric (column 3, lines 7-12). One of ordinary skill in the art would therefore have recognized the advantage of providing for the adhesive or no adhesive of Turley et al in Cheung et al, Kolthammer et al and Prevorsek et al, which comprises an ethylene interpolmer, depending on the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for the use of an adhesive or these of no adhesive between the fabric layers, and 40 percent by weight of a further polymeric component comprising styrenic block copolymer, low density polyethylene or propylene homopolymer in Cheung et al, Kolthammer et al and Prevorsek et al in order to make water impermeable clothing from the fabric as taught by Turley et al."

Office Action of October 19, 2005, Page 4-5.

The Applicants have reviewed the rejection in view of the Examiner's comments and respectfully disagree. The Applicants reasons are stated as follows.

The combination of the '201, the '575 patent, and the '029 patent fail to establish a *prima facie* case of obviousness with respect to the independent claims 1 and 39 for the reasons discussed above. The '768 fails to cure the deficiencies of the combination of those references because the '768 patent is directed to fibers that comprise a substantially random interpolmer. The substantially random interpolmer may contain up to 50 wt. percent of a tackifier and there is no discussion of drape properties in the '768 patent. On the other hand, the present claims are directed to multilayer structures that include a substantially random interpolmer layer and a fabric layer (i.e. a layer made up of fibers), the substantially random interpolmer has only from 0-5 wt. percent of a tackifier and results in the improved drape properties. Consequently, it again appears that the Examiner has based the determination of obviousness appears to be based on a combination of features selectively

culled from the prior art to fit the parameters of the claimed invention using hindsight. Thus, the rejection is improper. *Lydall, Inc.*, 48 USPQ2d 1321; *In re McLaughlin*, 443 F.2d 1392; *Aerosonic, Corp.*, 38 USPQ2d 1551. Because a *prima facie* case of obviousness has not been established for independent claim 1, a *prima facie* case of obviousness against the rejected claims has also not been established. Therefore, the Applicants respectfully request that the rejection of claims 26, 28-29, 34-38 and 41-42 under 35 U.S.C. §103 based on the combination of the '201, the '575, the '029, and the '768 patents be withdrawn.

Rejection of Claim 27 under 35 U.S.C. §103

Dependent claim 27 is rejected as being unpatentable over U.S. Patent No. 5,872,201 to Cheung, et al (the '201 patent), in view of U.S. Patent No. 5,869,575 (the '575 patent) and U.S. Patent No. 5,677,029 to Prevorsek et al (the '029 patent) in further view of U.S. Patent No. 6,190,768 to Turley et al (the '768 patent) in further view of U.S. patent No. 4,957,968 to Adur (hereafter referred to as "the '968 patent"). In making the rejection, the Examiner made the following statements:

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al (U.S. Patent No. 5,872,201) in view of Kolthammer et al (U.S. Patent No. 5,869,575) and Prevorsek et al (U.S. Patent No. 5,677,029) and Turley et al (U.S. Patent No. 6,190,768) and further in view of Adur et al (U.S. Patent No. 4,957,968).

Cheung et al, Kolthammer et al Prevorsek et al and Turley et al disclose a multilayer structure comprising fabric and adhesive layers as discussed above. Cheung et al, Kolthammer et al, Prevorsek et al and Turley et al fail to disclose adhesive layers comprising a combination of an ethylene polymer having grafted thereto an unsaturated carboxylic acid [sic], and an isocyanate compound.

Adur et al teach the use of an adhesive elastomer comprising a polyethylene which is grafted with unsaturated carboxylic acid and isocyanate (it is therefore a combination of an ethylene polymer having grafted thereto an unsaturated carboxylic acid, and an isocyanate compound; column 17, lines 51-61) for the purpose of bonding polyolefin with no pretreatment (column 1, lines 6-10). One of ordinary skill in the art would therefore have recognized the advantage of providing for the polymer of Adur et al in Cheung et al, Kolthammer et al Prevorsek et al and Turley et al, which comprises a polyolefin, depending on the desired pretreatment of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for an adhesive layer comprising a combination of an ethylene polymer having grafted thereto an unsaturated carboxylic acid and an isocyanate compound in Cheung et al, Kolthammer et al Prevorsek et al and Turley et al in order to bond the fabric layers, which comprise polyolefin with no pretreatment as taught by Adur et al.

Office Action of October 19, 2005, Page 5-6.

The Applicants have reviewed the rejection in view of the Examiner's comments and respectfully disagree. The Applicants reasons are stated as follows.

The combination of the '201, the '575 patent, the '029, and the '768 patent fails to establish a *prima facie* case of obviousness with respect to the independent claims 1 and 39 for the reasons discussed above. The '968 fails to cure the deficiencies of the combination of those references because the '968 patent is directed to adhesive compositions. Thus, it fails to cure the deficiencies of combination of remaining references. Moreover, the adhesive compositions described in the '968 patent are tested for adhesion to aluminum, copper, stainless steel, chrome plated steel and tin as well as polypropylene surfaces. There is not suggestion that they would be suitable for use with the substantially random interpolymers of Layer (b) of the present claims and the materials recited for layer (A) of the claimed multilayer structures. Consequently, it again appears that the Examiner has based the determination of obviousness appears to be based on a combination of features selectively culled from the prior art to fit the parameters of the claimed invention using hindsight. Thus, the rejection is improper. *Lydall, Inc.*, 48 USPQ2d 1321; *In re McLaughlin*, 443 F.2d 1392; *Aerosonic, Corp.*, 38 USPQ2d 1551. Therefore, the Applicants respectfully request that the rejection of claim 27 under 35 U.S.C. §103 based on the combination of the '201, the '575, the '029, and the '768 patents be withdrawn.

CONCLUSION

The Applicants have addressed all of the Examiner's rejections. In conjunction with the amendments and arguments above, the Applicants believe that the claims are now in condition for allowance and respectfully request that the Examiner grant such an action. If any questions or issues remain in the resolution of which the Examiner feels will be advanced by a conference with the Applicants' attorney, the Examiner is invited to contact the attorney at the number noted below.

Should there be any additional fees required, please charge such additional fees to
Deposit Account 50-3420, reference 31176280-040001 (RLAbdon).

Respectfully submitted,

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